PCT

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/806,080

DATE: 04/04/2001 TIME: 11:20:05

Input Set : **A:\S0109991.app**

Output Set: N:\CRF3\04042001\1806080.raw

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W--> 1 SEQUENZPROTOROLL -> Delete from beginning of file.
3 <110> APPLICANT: JOMAN HASSAN
      3 <110> APPLICANT: Jomaa, Hassan
      5 <120> TITLE OF INVENTION: Gene des 1-Desoxy-D-xylulose-Biosynthesewegs
     7 <130> FILE REFERENCE: 15696
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C--> 9 <140> CURRENT APPLICATION NUMBER: US/09/806,080
                                                                     Corrected Diskette Needed
C--> 10 <141> CURRENT FILING DATE: 2001-03-22
     12 <150> PRIOR APPLICATION NUMBER: DE19923567.8
                                                                        See p.4
     13 <151> PRIOR FILING DATE: 1999-05-22
     15 <150> PRIOR APPLICATION NUMBER: DE19843279.8
     16 <151> PRIOR FILING DATE: 1998-09-22
   \square 18 <160> NUMBER OF SEQ ID NOS: 6
   20 <170> SOFTWARE: PatentIn Ver. 2.1
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   □ 607
                     20
                                          25
     609 Asn Gln Ile Lys Thr Glu Lys Ile Tyr Ile Lys Lys Leu Asn Arg Leu
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     612 Ser Arg Lys Asn Ser Leu Cys Ser Ser Lys Asn Lys Ile Ala Cys Leu
                                 55
     615 Phe Asp Ile Gly Asn Asp Asp Asn Arg Asn Thr Thr Tyr Gly Tyr Asn
                             70
                                                 75
     618 Val Asn Val Lys Asn Asp Asp Ile Asn Ser Leu Leu Lys Asn Asn Tyr
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     621 Ser Asn Lys Leu Tyr Met Asp Lys Arg Lys Asn Ile Asn Asn Val Ile
     622
                    100
                                        105
     624 Ser Thr Asn Lys Ile Ser Gly Ser Ile Ser Asn Ile Cys Ser Arg Asn
                115
                                    120
                                                        125
     627 Gln Lys Glu Asn Glu Gln Lys Arg Asn Lys Gln Arg Cys Leu Thr Gln
                                135
     630 Cys His Thr Tyr Asn Met Ser His Glu Gln Asp Lys Leu Ala Asn Asp
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     631 145
                             150
     633 Asn Asn Arg Asn Asn Lys Lys Asn Phe Asn Leu Leu Phe Ile Asn Tyr
                                            170
     634
                         165
     636 Phe Asn Leu Lys Arg Met Lys Asn Ser Leu Leu Asn Lys Asp Asn Phe
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185

639 Phe Tyr Cys Lys Glu Lys Lys Leu Ser Phe Leu His Lys Ala Tyr Lys

200

195

640

RAW SEQUENCE LISTING

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DATE: 04/04/2001 TIME: 11:20:06

Input Set : A:\S0109991.app

Output Set: N:\CRF3\04042001\1806080.raw

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|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | 645 646 | Arg | Asp | Ser | His | Lys | Leu 230 | Phe | Ser | Gly | Glu | Phe 235 | Asp | Asp | Tyr | Thr | Asn 240 |
| | 648 649 | Asn | Asn | Ala | Leu | Tyr 245 | Glu | Ser | Glu | Lys | Lys 250 | Glu | Tyr | Ile | Thr | Leu 255 | Asn |
| | 651 652 | Asn | Asn | Asn | Lys 260 | Asn | Asn | Asn | Asn | Lys 265 | Asn | Asn | Asp | Asn | Lys 270 | Asn | Asn |
| | 654 655 | Asp | Asn | Asn 275 | | Tyr | Asn | Asn | Asn 280 | Asn | Ser | Cys | Asn | Asn 285 | Leu | Gly | Glu |
| | 657 658 | Arg | Ser 290 | | His | Tyr | Asp | Asn 295 | Tyr | Gly | Gly | Asp | Asn 300 | Asn | Asn | Pro | Cys |
| | 660 661 | Asn 305 | Asn | Asn | Asn | Asp | Lys 310 | | Asp | Ile | Gly | Lys 315 | Tyr | Phe | Lys | Gln | Ile 320 |
| | 663 664 | Asn | Thr | Phe | Ile | Asn 325 | | Asp | Glu | Tyr | Lys 330 | Thr | Ile | Tyr | Gly | Asp 335 | Glu |
| | 666 667 | Ile | Tyr | Lys | Glu 340 | | Tyr | Glu | Leu | Tyr 345 | Val | Glu | Arg | Asn | Ile 350 | Pro | Glu |
| | 669 670 | Tyr | Tyr | Glu 355 | | Lys | Tyr | Phe | Ser 360 | Glu | Asp | Ile | Lys | Lys 365 | Ser | Val | Leu |
| | 672 | Phe | 370 | Ile | | | | 375 | | | | | 380 | | | | |
| | 675 676 | Glu 385 | Glu | Phe | Ile | Asn | Asn 390 | Gly | Val | Tyr | Ile | Asn 395 | Asn | Ile | Asp | Asn | Thr 400 |
| | 678 679 | Tyr | Tyr | Lys | Lys | Glu 405 | Asn | Ile | Leu | Ile | Met 410 | Lys | Lys | Ile | Leu | His 415 | Tyr |
| | 681 682 | Phe | Pro | Leu | Leu 420 | Lys | Leu | Ile | Asn | Asn 425 | Pro | Ser | Asp | Leu | Lys 430 | Lys | Leu |
| | 684 685 | Lys | | 435 | | | | | 440 | | | | | 445 | | | |
| | 687 688 | Phe | 450 | | | | | 455 | | | | | 460 | | | | |
| | 690 | Ser 465 | Leu | Glu | Ile | Gln | Leu 470 | Leu | Leu | Leu | Tyr | Ile 475 | Phe | Asn | Gln | Pro | Tyr 480 |
| | 693 694 | Asp | Asn | Val | Ile | Tyr 485 | Asp | Ile | Gly | His | Gln 490 | Ala | Tyr | Val | His | Lys 495 | Ile |
| | 696 697 | | | | 500 | | | | | 505 | | | | | 510 | | Gly |
| | 699 700 | Ile | Ser | Gly 515 | Phe | Leu | Asn | Ile | Phe 520 | Glu | Ser | Ile | Tyr | Asp 525 | Lys | Phe | Gly |
| | 702 703 | | 530 | His | | | | 535 | | | | | 540 | | | | Glu |
| | 705 | Ala 545 | Glu | Trp | Gln | Val | Lys 550 | | Lys | Glu | Lys | Tyr 555 | Gly | Asn | Gly | Asp | Ile 560 |
| | 708 709 | Glu | Ile | Ser | Asp | Asn 565 | Ala | Asn | Val | Thr | Asn 570 | | Glu | Arg | Ile | Phe 575 | Gln |
| | 711 712 | Lys | Gly | Ile | His 580 | | Asp | Asn | Asn | Ile 585 | Asn | | Asn | Ile | Asn 590 | Asn | Asn |
| | 714 | Asn | Tyr | Ile | | Pro | Ser | Asp | Val | | | Arg | Glu | Asn | Thr | Asn | Val |

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PATENT APPLICATION: US/09/806,080

DATE: 04/04/2001 TIME: 11:20:06

Input Set : A:\S0109991.app

Output Set: N:\CRF3\04042001\1806080.raw

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|-----------|-----|----------------|-------------|-----|-----------|--------------|------------|-----|-------|------------|-----|------------|------|------|----------|------------|-------------|
| | | Pro | Asn | | Arq | Asn | Asp | Asn | | Asn | Val | Asp | Lys | • | His | Ile | Ala |
| • | 718 | | 610 | | | | | 615 | | | | - | 620 | | | | |
| | 720 | Ile | Ile | Gly | Asp | Gly | Gly | Leu | Thr | Gly | Gly | Met | Ala | Leu | Glu | Ala | Leu |
| | 721 | | | _ | - | _ | 630 | | | _ | | 635 | | | | | 640 |
| | 723 | Asn | Tyr | Ile | Ser | Phe | Leu | Asn | Ser | Lys | Ile | Leu | Ile | Ile | Tyr | Asn | Asp |
| | 724 | | _ | | | 645 | | | | | 650 | | | | | 655 | |
| | 726 | Asn | Gly | Gln | Val | Ser | Leu | Pro | Thr | Asn | Ala | Val | Ser | Ile | Ser | Gly | Asn |
| | 727 | | | | 660 | | | | | 665 | | | | | 670 | | |
| | 729 | Arg | ${\tt Pro}$ | Ile | Gly | Ser | Ile | Ser | Asp | His | Leu | His | Tyr | Phe | Val | Ser | Asn |
| | 730 | | | 675 | | | | | 680 | | | | | 685 | | | |
| | 732 | Ile | Glu | Ala | Asn | Ala | Gly | | Asn | Lys | Leu | Ser | Lys | Asn | Ala | Lys | Glu |
| | 733 | | 690 | | | | | 695 | | | | | 700 | | | | |
| | | Asn | Asn | Ile | Phe | Glu | | Leu | Asn | Tyr | Asp | | Ile | Gly | Val | Val | |
| | 736 | | | | | | 710 | | _ | | _ | 715 | | | | | 720 |
| Janchcoo. | | Gly | Asn | Asn | Thr | | Glu | Leu | Phe | Lys | | Leu | Asn | Asn | Ile | | Glu |
| | 739 | | | | | 725 | | | | | 730 | | | | _ | 735 | _ |
| | | Asn | Lys | Leu | | Arg | Ala | Thr | Val | | His | Val | Arg | Thr | | Lys | Ser |
| | 742 | _ | _ | | 740 | _ | _ | _ | _ | 745 | - 1 | ~ | 1 | | 750 | a | +1 - |
| | | Asn | Asp | | IIe | Asn | Ser | Lys | | Pro | тте | ser | TTE | | HIS | ser | тте |
| | 745 | _ | _ | 755 | 01 | - 1 - | D1 | D | 760 | 3 | m 1 | m | T1. | 765 | 1 | a 1 | 7 ~ ~ |
| | | Lys | - | Asn | GIU | TTE | Pne | | Pne | Asp | Thr | Thr | | Leu | ASI | СтУ | ASII |
| | 748 | T1 = | 770 | T | 01 | 3 ~ ~ | T | 775 | c1 | C 3 | C1 | T *** G | 780 | 17-1 | Con | Com | Con |
| | 751 | Ile | HIS | гах | GIU | ASII | туs 790 | TIE | GIU | GIU | GIU | туs 795 | ASII | Val | 361 | ser | 800 |
| | | Thr | Lvc | тат | λen | Val | - | λen | T.376 | λen | λen | | Δen | Δen | Δen | Δen | |
| | 754 | 1111 | цуз | тут | кэр | 805 | VPII | non | шуз | ASII | 810 | цуз | ASII | AJII | пор | 815 | DCI |
| m | | Glu | Tl۵ | T1e | T.vc | | Glu | Asn | Met | Phe | | Lvs | G111 | Thr | Phe | | Asp |
| | 757 | Olu | | | 820 | -1- | 014 | | | 825 | 001 | 2,0 | 014 | | 830 | | F |
| | | Ile | Tvr | Thr | | Glu | Met | Leu | Lvs | | Leu | Lvs | Lvs | Asp | | Asn | Ile |
| | 760 | | -1- | 835 | | | | | 840 | -1- | | -1- | | 845 | 5 | | |
| | | Ile | Phe | Leu | Ser | Pro | Ala | Met | Leu | Gly | Gly | Ser | Gly | Leu | Val | Lys | Ile |
| • | 763 | | 850 | | | | | 855 | | - | - | | 860 | | | - | |
| | 765 | Ser | Glu | Arg | Tyr | Pro | Asn | Asn | Val | Tyr | Asp | Val | Gly | Ile | Ala | Glu | Gln |
| | 766 | 865 | | - | - | | 870 | | | | | 875 | | | | | 880 |
| | 768 | His | Ser | Val | Thr | Phe | Ala | Ala | Ala | Met | Ala | Met | Asn | Lys | Lys | Leu | Lys |
| | 769 | | | | | 885 | | | | | 890 | | | | | 895 | |
| | 771 | Ile | Gln | Leu | Cys | Ile | Tyr | Ser | Thr | Phe | Leu | Gln | Arg | Ala | Tyr | Asp | Gln |
| | 772 | | | | 900 | | | | | 905 | | | | | 910 | | |
| | 774 | Ile | Ile | His | Asp | Leu | Asn | Leu | Gln | Asn | Ile | Pro | Leu | Lys | Val | Ile | Ile |
| | 775 | | | 915 | | | | | 920 | | | | | 925 | | | |
| | 777 | Gly | Arg | Ser | Gly | Leu | Val | Gly | Glu | Asp | Gly | Ala | | His | Gln | Gly | Ile |
| | 778 | | 930 | | | | | 935 | | | | | 940 | | | | |
| | | \mathtt{Tyr} | Asp | Leu | Ser | Tyr | | Gly | Thr | Leu | Asn | | Ala | Tyr | Ile | Ile | |
| | 781 | | | | | | 950 | | | | | 955 | | _ | _ | | 960 |
| | | Pro | Ser | Asn | Gln | | Asp | Leu | Lys | Arg | | Leu | Arg | Phe | Ala | | Leu |
| | 784 | _ | _ | _ | | 965 | | _ | ~ 3 | _ | 970 | _ | _ | | _ | 975 | _ |
| | | Asp | гÀг | Asp | | ser | val | туr | тте | | тте | Pro | arg | мет | | тте | Leu |
| | 787 | | | | 980 | | | | | 985 | | | | | 990 | | |
| | | | | | | | | | | | | | | | | | |

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/806,080

DATE: 04/04/2001 TIME: 11:20:06

Input Set : A:\S0109991.app

Output Set: N:\CRF3\04042001\1806080.raw

789 Ser Asp Lys Tyr Met Lys Gly Tyr Leu Asn Ile His Met Lys Asn Glu 995 1000 792 Ser Lys Asn Ile Asp Val Asn Val Asp Ile Asn Asp Asp Val Asp Lys 1020 1015 796 Tyr Ser Glu Glu Tyr Met Asp Asp Asp Asn Phe Ile Lys Ser Phe Ile E--> 796 025 / 1035 1030 798 Gly Lys Ser Arg Ile Ile Lys Met Asp Asn Glu Asn Asn Asn Thr Asn 1045 1050 801 Glu His Tyr Ser Ser Arg Gly Asp Thr Gln Thr Lys Lys Lys Val 802 1060 1065 804 Cys Ile Phe Asn Met Gly Ser Met Leu Phe Asn Val Ile Asn Ala Ile 805 1075 1080 1085 807 Lys Glu Ile Glu Lys Glu Gln Tyr Ile Ser His Asn Tyr Ser Phe Ser 1095 810 Ile Val Asp Met Ile Phe Leu Asn Pro Leu Asp Lys Asn Met Ile Asp E--> 811 105/ 1110 1115 🗂 813 Mis Val Ile Lys Gln Asn Lys His Gln Tyr Leu Ile Thr Tyr Glu Asp 1125 1130 816 Asn Thr Ile Gly Gly Phe Ser Thr His Phe Asn Asn Tyr Leu Ile Glu 817 1140 1145 819 Asn Asn Tyr Ile Thr Lys His Asn Leu Tyr Val His Asn Ile Tyr Leu ¹ 820 1155 1160 1165 星 822 Ser Asn Glu Pro Ile Glu His Ala Ser Phe Lys Asp Gln Gln Glu Val 1175 🗂 825 Val Lys Met Asp Lys Cys Ser Leu Val Asn Arg Ile Lys Asn Tyr Leu E--=> 826 185 / 1190 1195 828 Lys Asn Asn Pro Thr 页 829 Involid amino acid numbers.

Involid amino acid numbers.

Move numbers circled one space
to the right as shown below.

Tyr 1025

I/e //05

Va/ 1185 **VERIFICATION SUMMARY**

PATENT APPLICATION: US/09/806,080

DATE: 04/04/2001 TIME: 11:20:07

Input Set : A:\S0109991.app

Output Set: N:\CRF3\04042001\1806080.raw

L:1 M:259 W: Allowed number of lines exceeded, (1) GENERAL INFORMATION:

L:9 M:270 C: Current Application Number differs, Replaced Current Application Number

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:796 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:4

M:332. Repeated in SeqNo=4